



Giant Hogweed

Heracleum mantegazzianum (Sommier & Levier) syn. *Heracleum caucasicum*, *Heracleum giganteum*

Provincial Designation:
Prohibited Noxious



Overview:

Giant hogweed is a biennial to short-lived perennial member of the carrot family Apiacea. It is native to western Caucasus (western Georgia, between Russia & Turkey), and was introduced to Europe (early 1800's) & North America as an ornamental because of its dramatic size (3-5 m in height)⁷ – it is one of the largest herbs in Europe. It reproduces via seed and vegetatively by perennial buds from its tuberous root stalks. A deep, thick taproot develops over the growing years, developing branches and can reach 15 cm diameter at the crown by flowering⁷.

Seeds need exposure to winter temperatures/cold stratification in humid soils² and germinate throughout the growing season.⁵ Giant hogweed produces a rosette of large leaves for the first few years of its life. The large leaves shade out competing vegetation (including other hogweed seedlings) and 'feed' the growing taproot. Several years after germination, it produces a flowering stalk and then dies after flowering and seed set (it is monocarpic). It forms a dense canopy, suppressing growth on native plants and

associated fauna⁵, and can result in winter erosion after stalks die back. Flowers are hermaphroditic (having both male & female organs) but require pollination, generally by insects.

This plants' most striking feature aside from size is the injuries it inflicts. Stem & leaf stalks are covered with stiff, hairy, pustules containing a clear, watery sap that sensitizes skin to UV radiation, which can cause painful burns/blistering – blisters can result in purple to black scars – and in some cases causes hospitalization. Skin sensitivity to sunlight may persist⁶.

The first known record of *Heracleum mantegazzianum* is on the Kew Botanic Garden's seed list in 1817 (under the name *Heracleum giganteum*) and this was probably the start of spread of the species in Europe. The first UK naturalized population was recorded in 1828 and soon after it spread rapidly across Europe.² It is known to exist in the wild in BC and Ontario, to date mainly in temperate areas. However, overwintering roots and sprouting shoots have survived -17°C in Scotland⁷.

Habitat:

Giant hogweed grows moist to wet soils high in organic content, typical of riparian habitats. It prefers disturbed, sunny to partly sunny sites. Seeds and plants do not survive waterlogged soils.

Identification:

Stems: Stems are single, stout and hollow, with dark reddish-purple spots, and 5-10 cm diameter. Stems and leaf stalks are covered with stiff hairs and pustules containing sap.

Leaves: Leaves are alternate, compound, having 3 leaflets which are deeply lobed with sharply toothed leaf margins, and can be as large as 1 to 1.5 m. Upper surface of the leaf is almost hairless. Upper leaves are progressively smaller and almost sessile⁷. Leaf stalks are purple-spotted.

Flowers: Flowers are white (sometimes pinkish) large, compound umbels with rounded tops, up to 1 m diameter. Petals can be 1cm long and sepals are triangular with prominent calyx teeth⁷. Fruits are flat and oval, about 1cm long with dark coloured oil

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Giant Hogweed (Continued)

tubes (varies from 2 to 5)⁷. Seed longevity is known to be greater than seven years.⁵

Seeds: Seed capsules are 1.5-3.5 cm long and up to 1.5 cm wide and contain up to 16 seeds which are 4-7 mm long and 2-4 mm wide. Seeds require cold stratification before germination.

Prevention:

Do not purchase and grow Giant hogweed plants or seeds. Giant hogweed requires disturbance to establish so it is important to maintain/restore desirable vegetation in habitats suitable for invasion. Seeds generally fall at the base of the parent plant but survive transport by water and this is the main means of seed dispersal. Avoid movement of seed-contaminated soil – also a source of dispersal. Eradication efforts in a district of Germany have cost from 42,000 to 100,000 Euros annually.⁵

Control:

Any Giant hogweed control is best done in spring when the plants are small. Removal of flower heads need to be done before fruits turn green to avoid spreading seed.¹ Seeds can travel long distances by water.

It is very important to wear protective gloves and clothing – a disposable paint suit and gloves works well – and also protect your faces and eyes.

Grazing: Cattle, sheep, goats and hogs will graze Giant hogweed⁷. Hog foraging will also destroy the roots⁷. Interestingly, after WW II Russia experimented with hogweeds as silage.² Invasive plants should never be considered as forage.

Cultivation: Giant hogweed requires disturbance to establish so it is important to maintain/restore desirable vegetation in habitats suitable for invasion.

Mechanical: The most used method is to dig out as much of the root stock as possible, again easiest to do when the plants are young or early in the season. It is difficult to get the entire root on older plants so grubbing may have to be repeated if re-sprouting occurs. Cutting of the taproot 8-12 cm below ground level is effective in killing both flowering and non-flowering plants⁷.

Mowing will stimulate budding⁵, but repeated mowing may deplete root reserves. All plant parts must be bagged and disposed of at landfill.

Chemical: Sodium chloride is registered for use on giant hogweed. Always check product labels to ensure the herbicide is registered for use on the target plant in



sure the herbicide is registered for use on the target plant in Canada by the Pest Management Regulatory Agency. Always read and follow label directions. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: All the most damaging insects and fungi have insufficiently narrow host range and can damage other Apiaceae such as parsnip (*Pastinaca sativa* L.). www.cabi.org/isc.

RESOURCES

- **The Giant Hogweed Best Practice Manual Guidelines for the management and control of an invasive weed in Europe**
http://www.giant-alien.dk/pdf/Giant_alien_uk.pdf
- http://www.anpc.ab.ca/wiki/index.php/Heracleum_mantegazzianum
- <http://www.ontarioweeds.com/weed.php?w=HERMZ>
- <http://www.kingcounty.gov/environment/animalsandplants/noxious-weeds/weed-identification/giant-hogweed.aspx>
- <http://www2.worksafebc.com/Publications/Multimedia/Videos.asp?ReportID=34980>

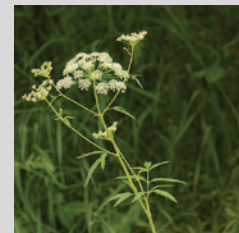
Similar Looking Plants:

Cow Parsnip
Heracleum lanatum



Leaves not as spiky, smaller – grows to 1-2 m, flowers 20 cm across - hollow stems – native to N.A.

Water Hemlock
Cicuta maculata



Grows 1 to 1.5 m, much smaller flowers, bipinnate leaves with dark green, lance-shaped leaflets, native to N.A. Deadly poisonous.

Wild Parsnip
Pastinaca sativa



John Cardina, Ohio State University

Yellow, umbellate flowers, plant juices cause photo-dermatitis, rashes and blistering.⁴ The USDA PLANTS Database considers this plant a Waif - an ephemeral introduction, not persistently naturalized in Canada.

REFERENCES

- 1 O.F.A.H. Invading Species Awareness Program <http://www.invadingspecies.com/Invaders.cfm?A=Page&PID=31>
- 2 Ecology and Management of Giant Hogweed (*Heracleum mantegazzianum*). Edited by M J W Cock, W Nentwig, P Pysek, H P Ravn. January 2007
- 3 Wikipedia http://en.wikipedia.org/wiki/Giant_Hogweed
- 4 <http://dnr.wi.gov/invasives/fact/parsnip.htm>
- 5 Global Invasive Species Database <http://www.issg.org/database/species/ecology.asp?fr=1&si=418>
- 6 Page et al. (2005) The Biology of Invasive Alien Plants in Canada. Canadian Journal of Plant Science 86: 569-589.
- 7 Tiley et al. (1996) Biological Flora of the British Isles. Journal of Ecology 84: 297-319.